

BRIDGE ADVISORY NUMBER: **BA-2019-04**

DATE: November 01, 2019

SUBJECT: Modifications to Team Leader Qualifications**ISSUED BY:** Allie Nadjarian, Bridge Inspection Program Manager**REVIEWED BY:** Andrew Bouvy, Bridge Inspection Engineer**Contact Information:** Allie Nadjarian, Bridge Inspection Program Manager
NadjarianA@michigan.gov or MDOT-MiBridge-Admin@michigan.gov

Effective January 1, 2020, the requirements to become and maintain status as a team leader will be strengthened to improve the quality of the Michigan Bridge Inspection Program. The new requirements will affect every team leader performing initial, routine, element, in-depth, fracture critical, and underwater inspections on highway structures located on all public roads.

The improvements to the program will include modifications to the recurrent training requirements and the addition of a field proficiency exam administered by the Michigan Department of Transportation (MDOT). The number of required recurrent training hours will be reduced from 24 to 18; however, the applicable coursework will be limited to specific classes offered by the National Highway Institute (NHI). Each team leader must successfully pass the initial exam no later than December 31, 2020. Subsequent exams will be required every 24 months for each team leader.

TEAM LEADER QUALIFICATIONS

Comprehensive Course

An individual wanting to complete bridge safety inspections in accordance with the National Bridge Inspection Standards (NBIS) must complete a Federal Highway Administration (FHWA) approved comprehensive bridge inspection training course such as NHI-130055 Safety Inspection of In-Service Bridges. Licensed professional engineers may complete NHI-130056 Safety Inspection of In-Service Bridges for Professional Engineers.

Certification or Experience

In addition to completing the comprehensive bridge inspection training course, team leaders must meet one of the following criteria:

1. Be a registered professional engineer;
2. Have (5) years of documented bridge inspection experience;
3. Have all of the following:
 - a. Bachelor's degree in engineering, successfully passed the Engineering and Surveying Fundamentals of Engineering exam, and
 - b. (2) years of documented bridge inspection experience;
4. Be certified as a Level III or IV Bridge Safety Inspector under National Certification in Engineering Technologies (NICET);

5. Have all of the following:
 - a. Associate's degree in engineering or engineering technology and,
 - b. (4) years of documented bridge inspection experience

Bridge inspection experience is reviewed and evaluated by the MDOT Bridge Inspection Program Manager. Individuals must submit the [Team Leader Qualifications](#) form for approval to MDOT. Experience may be gained by assisting or participating in routine NBI inspections performed by a team leader or through technical experience in bridge design, bridge maintenance or bridge construction. One year of experience toward meeting the NBIS requirements may be granted for every:

- 100 routine NBI inspections performed with a team leader.
- 3 years technical experience in bridge design, bridge maintenance or bridge construction, where more than half of the tasks performed annually were directly related to bridges and culverts.

Field Proficiency Exam

All team leaders are required to successfully pass the initial exam by December 31, 2020. Subsequent exams must be completed once every 24 months in order to maintain the ability to perform NBI inspections in Michigan. The exam requires two bridge inspections to be conducted in the field and includes questions tailored towards deficiencies identified during MDOT's annual quality assurance reviews.

On January 1, 2020, MDOT will post a list of bridges to be utilized for the field portion of the exam at <http://www.michigan.gov/bridgeinspectQTL>. Every effort will be made to provide two structures in at least four of the seven MDOT regions to reduce travel time for inspectors. Blank reports, standardized spreadsheets, and a list of questions will be available online.

The individual taking the exam must perform a field inspection for two bridges from the list, provide accurate condition ratings for each item on the Bridge Safety Inspection Report (BSIR) with comments to support the condition coding, complete the element inspection, and answer a variety of inspection related questions. The completed exams must be emailed in a single PDF file to MDOT-MiBRIDGE-Admin@michigan.gov.

The exam will be evaluated according to the following breakdown:

Category	Percentage of Overall Exam
Deck condition coding (SI&A Item 58) and supporting comments	20%
Superstructure condition coding (SI&A Item 59) and supporting comments	20%
Substructure (SI&A Item 60) and supporting comments	20%
All other BSIR condition coding and supporting comments	10%
Element inspection quantities and condition states	10%
Supplemental inspection questions regarding National or Michigan program policy	20%

Failure to submit the necessary documentation and achieve a score of at least 80% will result in the restriction of MiBRIDGE user rights and the inability to enter inspection reports until the exam is successfully passed. Time extensions for completing the exam will not be granted due to inclement

weather, workload, or equipment failure. Inspectors are encouraged to plan ahead to ensure that their team leader status does not lapse.

The MDOT Bridge Inspection Program Manager will evaluate each submitted exam and assign an overall score within 30 days of receiving the document. Team leaders will be notified by email whether they received a pass or fail score for the exam. When a team leader receives a failing score, the exam may be retaken using two new structures. If a team leader fails two consecutive exams, a meeting will be held to discuss the deficiencies noted and develop a corrective action plan.

Recurrent Training

Team leaders must complete 18 hours of approved bridge inspection recurrent training over a 60-month period. The NHI courses listed in the table below are the only means approved to satisfy recurrent training requirements:

NHI Classes - Instructor Led (ILT)		
NHI Class	Title	Credit (hrs)
130055	Safety Inspection of In-Service Bridges	67
130056	Safety Inspection of In-Service Bridges for Professional Engineers	34
130053	Bridge Inspection Refresher	18
130078	Fracture Critical Inspection Techniques for Steel Bridges	28
130091	Underwater Bridge Inspection	24
130110	Tunnel Inspection	32
135046	Stream Stability & Scour at Highway Bridges	20
135047	Stream Stability and Scour at Highway Bridges for Bridge Inspectors	6
135048	Countermeasure Design for Bridge Scour and Stream Instability	15

NHI courses approved for recurrent training are hosted by MDOT and the American Council of Engineering Companies of Michigan (ACEC). Contact MDOT's statewide training coordinator or ACEC of Michigan to verify which courses are being offered each year. Team leaders may explore course offerings in other states to fulfill their recurrent training requirement.

Please refer to [Chapter 1](#) of the Michigan Structure Inspection Manual (MiSIM) for additional information.